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ABSTRACT

This paper uses the work of some of the acknowledged geniuses of the 19th and 20th centuries to reflect upon the practices of educarers to encourage young children's creativity and exploratory thinking and to raise questions about philosophies of educare with infants and toddlers. Beginning and ending with Albert Einstein, the paper considers how the implications of quantum theory upon time can be used to challenge linear accounts of changing ideas of child development. The paper maintains that thinkers of the past can exercise great influence upon the interpretations of the present and upon efforts to shape the future. The theorists discussed in this paper include Einstein, Vygotsky, Froebel, Montessori, Steiner, Margaret McMillan, and Susan Isaacs. Further, the paper, which was presented in conjunction with a videotape, notes how use of the videotape medium brings about an illusory present, in which audience members have the possibility to join in making links between evanescent moment of practice and the inspiring work of great thinkers, whether inside or outside the world of educare and young children. (Contains 24 references.) (KB)

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"Put the baby genius kits in the bin" (Ted Wragg, 2000) What did the geniuses say?

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Lesley Abbott and Julia Gillen

Paper presented as part of the symposium 'Looking Back to Shape the Future' - Lesley Abbott, Janet Ackers, Julia Gillen (Manchester Metropolitan University) and Helen Moylett (Tamworth Early Years Centre) at the 10th European Conference on Quality in Early Childhood Education (EECERA Annual Conference), Institute of Education, University of London 29th August to 1st September 2000

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Abstract

Producing a multimedia pack has given us opportunities to observe educarers working in fascinating ways to encourage young children's creativity and exploratory thinking. In reflecting upon their practices and raising questions about philosophies of educare with the under threes, we have turned to the work of some of the acknowledged 'geniuses' of the nineteenth and twentieth centuries. We begin and end with Einstein, considering first how the implications of quantum theory upon time can be used to challenge linear accounts of changing ideas of child development. In the 'emergent present' the thinkers of the past can exercise great influence upon our interpretations of the present and efforts to shape the future. The video medium itself works also to bring about an illusory present, in which audience members have the possibility to join with us in making links between evanescent moments of practice and the inspiring work of great thinkers, whether inside or outside the 'Early Years world.'

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This paper begins and ends with Einstein. Bringing Einstein into an Early Years discussion immediately makes one think of the 'hothousing' approaches to Early Education that Ted Wragg (2000) has lambasted recently in the TES. As we all know, every so often radical approaches to 'boosting intelligence' appear in the press, feeding upon parents' desires to give children the best possible start in life. More sober research-based evidence tends to at best modify some of the more startling claims and Ted Wragg's exhortation, "Put the baby genius kits in the bin" appears a common-sense support to parents that any attempt to create an Einstein would be misguided.

Yet in this paper we take another slant on Einstein, seeking inspiration from his life and work. Together with colleagues, we have worked over the last few years firstly in researching high quality provision for the under threes and secondly in creating a multimedia training pack for those working or training to work with children under threes (Abbott and Moylett, 1997a, 1997b; Abbott and Gillen, 1997; Abbott et al., 2000). The most recent end product is highly empirical; we have presented on video, largely through a 'fly-on-the-wall' filming technique, glimpses of what actually happened in interactions involving very young children in out-of-home settings. In the supporting handbook our principal aim is to encourage people to reflect further on what they see and use this experience to question and develop their own practice. Our approach to Early Years education and training is thus more founded on the 'reflective practitioner' tradition (Schön, 1983) than on a particular didactic set of theories about care and learning in very young children. At the same time, as the books included in the pack make clear, for us and our contributors to those books, the legacy of great thinkers in the Early Years field is a tremendous resource we should continue to draw upon, always in an active and questioning way. We do not view this legacy as merely being identified with the dead, distant, or indeed those labelled as 'Early Years'. Nor shall we waste any time considering precisely who, in what follows, merits the label 'genius', as we explore a few links between certain past figures and current practices that we and some of our research participants find of value.

To begin with Einstein and the question of time. His work on quantum physics in the last century destroyed narrow conceptions of time. Karin Tusting, a writer on literacy who draws upon Adam's work on time and social theory, describes how the old positivist certainties of time as linear and working in the same way and at all times and in all places has been overturned. Adam (1990), as cited by Tusting, explains that the very notion of time as linear, invariable and quantifiable is itself a social construct that can now be overthrown.

> "In the natural sciences the concepts of relativity, the central importance of the observer's position and the qualitative experience of time have replaced the positivist image of an objective time line... Quantum physics has shown that any experience of time is fundamentally affected by the framework of the observer." (Tusting, 2000: 36)

Tusting and Adam propose that we live constantly in an 'emergent present' in which the past and future can be constructed as "part of the flow of present experience" (Ibid: 37). If we think of the past, it is to constantly reevaluate it in the knowledge of what has passed since; the future exists for us in terms of plans and projections, and we can only make any sense of the present moment by drawing upon our knowledge of the

'past' and what we expect in the 'future'. In her studies of literacy, Tusting draws inspiration from these ideas to show how patterns, regular yet not invariable repetitions in processes that are understood to have taken place in the past, flow in the present and aid our continuing efforts to make sense of the practices we observe and indeed participate in. In this paper we extend her idea, drawing upon words, knowledge and actions of certain 'great thinkers' of the past, making links with patterns we see in what might be termed an 'illusory present' given to us by the power of video as well as our present patterns of interpretation. We are thus challenging a linear form of time which makes the measured distant past most distant. For example, if 'past' actions and words are 'true' for us, they can work in our present and as part of our efforts to shape the future.

Before we commence on our task of making near seamless transitions between very young children and recognised geniuses, we will try to elucidate our standpoint more clearly by offering an element of challenge of a deservedly highly notable recent attempt to present a linear view of child development, through reference to the work of Vygotsky.

Woodhead and Faulkner (2000) make a powerful and highly convincing account of changes in child development research. According to them, we are moving into an exciting era where methodologies diversify and children are accorded more respect then was common with experimental approaches, especially when founded on the outmoded behaviorist tradition. They argue upon good evidence that the child is increasingly being regarded as a research 'participant' rather than subject or even object and that "greater emphasis in given to children as social and cultural actors." (Ibid: 31). On one level, our response is to agree with their tale of progress in research on child development and education, recognising that this is the working assumption that may perhaps underlie the working lives of all of us here at this conference.

Yet Woodhead and Faulkner's portrayal of a time when things are moving or at least now have the potential to move from a previous overly narrow conception of child development can also be found in Vygotsky's writings of 1930. In "Tool and Sign in the Development of the Child" published in full for the first time in English in 1999, he writes with a highly contemporary resonance. For example, in criticising what he calls two strands of enslavement of child psychology – the botanical and zoological – he writes: "even contemporary child psychology has not been liberated definitely from a botanical tendency that hangs over it and interferes with its recognising the uniqueness of the mental development of the child in comparison with the growth of a plant." (Vygotsky, 1999: 3) Applying the methods of the natural sciences is not appropriate to the complexity of the dynamic processes under consideration, he argues.

Vygotsky was not a lone thinker working in a vacuum (Van der Veer and Valsiner, 1991; Gillen, 2000). Reading this (1999) paper alone makes it abundantly clear that he was working in a forest of competing theories, all associable with cultural and historical contexts, some in greater alignment with powerful ideological and material forces than others. Although many of Woodhead and Faulkner's (2000) ideas have much in common with Vygotsky's analysis, their picture of *linear* progress towards relative contemporary improved understandings is in a sense challenged by both Vygotsky's perspicuity and surveys of the field. At the same time, in the light of the

notions of time traced above, it is not surprising that at a time when the confluence of ideas in child psychology is as interesting and conflictual as Woodhead and Faulkner describe, Vygotsky's similar impressions of 70 years ago, makes great sense to us now. His writing is very much that of the emergent present, available to support and enrich those ideas that we must think of as 'new' if we are able to experience and make use of them at all.

The medium of video presents in its own qualities an embodiment of the notion of time as "emergent present" in its vivid recreation of past 'reality'. Reading some words of Vygotsky caused us to think of an incident which occurred in March 1999, which would have been as evanescent as almost every other valuable moment in the educare of children under 3, were it not for the presence of the camera. Back in 1930, Vygotsky was arguing against a certain trend in thinking which in his opinion devalued the significance of play in learning:

> "In contrast to naturalistic theories of play, our experiments compel us to reach the conclusion that play is the main channel of cultural development of the child, and specifically of the development of his symbolic activity." (Ibid: 9)

In the video sequence shown at this point in the presentation, Jack concentrates on connecting a horse with a tractor and then places a farmer figure in the tractor. His is an achievement of dexterity, but its success is also founded upon his understanding of the objects as representations. (From Debdale Park Beehive Playgroup)

In considering how best to foster children's learning and holistic development, many early childhood educators from many areas of the world are making actual or metaphorical pilgrimages to the area of Reggio Emilia, Northern Italy (see Abbott and Nutbrown, forthcoming). Its first head of Early Childhood Services, Loris Malaguzzi, is now recognised as one of the great educators who have contributed much to our present understanding of young children and the kinds of provision best suited to their needs and development.

Malaguzzi wrote about his personal impulses behind his work:

> "we are still trying to understand the intuitions, the ideas, the feelings that were there at the start and that have accompanied us ever since. These correspond to what John Dewey called 'the foundation of the mind' or Lev Vygotsky considered 'the loan of consciousness'." (1993:50)

Those who have carefully attended to babies' potential, in watching carefully their reactions to a carefully managed yet not bewilderingly over-stimulating environment, can share in Malaguzzi's wonder:

At this point a video extract shows a baby playing with dangling cords to make sound as facilitated by an educarer; followed by a baby with a bowl later placed beside a mirror, designed according to a pattern followed in Reggio Emilia. (Hilary's Nursery)

James, Jenks and Prout (1998) have contributed great deal to the process of reviewing models of childhood that have become part of conventional wisdom. In considering Rousseau, for example, they go beyond the frequently over-simplified emphasis on the natural goodness and innocence of childhood. James et al suggest that

> "Rousseau, more significantly, opened up the question of the child's particularity, a question that ..... remains central in contemporary theorising." (1998 : 13)

Presaging the work of Malaguzzi and the impressive educarers of our own day, Rousseau contributed

> "the serious recognition that children are not bundles of negative attributes, or incompletely formed persons waiting to become adults; they are who they are... Our contemporary concern for children's education begins, therefore, with Rousseau and with a childhood that is recognisable through encouragement, assistance, support and facilitation." (Ibid: 14)

Pestalozzi (1745-1827) took from Rousseau the conviction that education must harmonise with the child's nature. His approach was child-centred in that he aimed to take account of the child's interests and capabilities, but he in no way abdicated from the teacher's responsibility to direct learning.
As a young schoolmaster Froebel worked under Pestalozzi at his school in Yverdun. Although impressed by Pestalozzi's work he became convinced of the need for a more systematic methodology and the unity of theory and practice in an educational philosophy. At the practical, pedagogical level Froebel reiterated Pestalozzi in insisting that words must be connected with real things that the child saw or touched.

It may surprise some readers to learn that here a very direct link can be made with the philosophy of Ludwig Wittgenstein whose 'image' - if we might use that rather inappropriate word - has become that of the epitomy of ivory-towered thinkers.

Wittgenstein would appear to be the archetypal philosopher, author of some of the most admired and influential theoretical works of the last century. Yet the rich tapestry of his life was not what that image of him might lead one to assume. He spent periods of his life as a soldier, engineer, architect and laboratory technician. At times he was the despair of the University of Cambridge authorities for encouraging his most brilliant students, who might have become dons, to train to work as doctors and students.

Never a man to urge others along paths of thought and action he was not willing to adopt himself, he trained as a teacher in Vienna in 1920 and then worked in secondary, primary and elementary schools over the following six years. Having come from a very rich family and already possessing high qualifications, he might have selected his area, but insisted on working in the most poor and rural location possible. Indeed he rejected the school he was sent to for his probationary year on the grounds that the town had a park with a fountain.

In Trattenbach, the small villague where he taught at the elementary school, he simply made a bed in the school kitchen. Monk (1991: 194-5) describes his teaching methods

that had much in common with the post first world war Austrian School Reform movement.

> "The most important principle... was that a child should not be taught simply to repeat what it has been told, but should instead be encouraged to think through problems for itself. Thus practical exercises played a large part in his teaching. The children were taught anatomy by assembling the skeleton of a cat, astronomy by gazing at the sky at night, botany by identifying plants on walks in the countryside, architecture by identifying building styles during an excursion to Vienna. And so on. With everything he taught, Wittgenstein attempted to arouse in the children the same curiosity and questioning spirit that he himself brought to everything in which he took an interest."

At this point a video extract shows children at Hilary's Nursery examining worms with an educarer.

Three of the most influential 'pioneers' of early childhood education, Froebel (1782-1852), Montessori (1869-1952) and Steiner (1861-1925) agree that childhood is much more than a preparation for adulthood and that it is an important stage in its own right. The 'whole child' is considered important and although expressed in different ways – Montessori emphasising a simple to complex model of development in which each sense is developed separately; Steiner stressing different aspects of development at different stages and Froebel viewing play as a unifying mechanism. It is this shared sense of 'unity', of self-discipline and intrinsic motivation which is fundamental to all three. At the same time, it is of course important to acknowledge the danger that in extracting the similarities, important differences are ignored. The contribution made by these pioneers of early childhood education is immense. Accusations of over-simplification and of only seeing what one wishes to see may be levelled with some justice, but our efforts to take from their rich legacy in our own time and context must necessarily be partial.

For us, as for others we have encountered, a connection to their practice is in different ways of valuing play. Froebel valued play because it helps children to make meaning. He believed play to be a unifying mechanism that integrates the child's learning. He saw it as the highest phase in the child's functioning and therefore saw no need to distinguish between play and work.

A video sequence shows a girl untying her shoe laces at Moss Side Nursery,.

Rudolph Steiner saw confidence and self-esteem in children as being of supreme importance. Play is seen as important too, not simply something to be done once work is completed. He believed that children should play together without interference. He valued the spiritual and believed that each educator's role is to find each individual's gifts and develop them. Educators must look closely at themselves in order to model the key elements of order, rhythm, good habits and loving consistency.

At Higher Downs Nursery a baby is filmed playing with his sock then interacting with a large toy and other babies. When one topples, an educarer rights him without interfering with the flow of play.

For Montessori the inner life of the child is helped through play but through graded sequences, and structured activity in a prepared environment. For Froebel the informal structure of the curriculum and sensitive involvement of the adult is seen as important.

In a modern classic Bruce (1987) argues that the work of Froebel, Montessori and Steiner share a set of common principles which have endured, and that agreements between them have been fundamental in creating the 'early childhood tradition'. At the same time differences, as Bruce points out, are significant:

> 'The practical handing down of their methods through Montessori and Steiner schools has to some extent worked against their absorption into mainstream schooling .... Of the three approaches, Montessori's and Steiner's are found to be formally and directly structured curricula, where Froebel's is informally and indirectly structured. But all are structured. For all its intangibility, the informally structured curriculum has stood the test of time to a remarkable extent.' (1987.32)

In the contemporary era, it is of course no longer acceptable for us to look only to men as 'great thinkers' with influences of education. Recognition of significant women's contribution harks back to the mid nineteenth century, but at this point it is useful to mention with appreciation the part of those historians who are looking further back. The educational historian Joyce Goodman for example is working to uncover the actions and contexts of obscured educationalists such as Elizabeth Hamilton. We give one quotation from Hamilton's powerful exhortations for improving quality in educare:

> "An important change in the national character would be produced by.... a change in the early education of infants... the inference, indeed, does not rest upon conjecture. It is confirmed by every page in the history of mankind, and justified by the observations of those most eminent for wisdom in every age and nation." Elizabeth Hamilton 1810, quoted by Goodman 1999: 279.

An opinion echoed many years later by Mia Kellmer-Pringle (1975.148)...

> "A willingness to devote adequate resources to the care of children is the hallmark of a civilised society, as well as an investment in our future."

Relatively well recognised in the training and professional development of some of us have been the contributions made by Margaret McMillan (1860-1931) and Susan Isaacs (1885-1948) to our thinking about the kinds of environment in which young children should be cared for and educated.

McMillan has been called the pioneer of the English Nursery School. The socialist vision which inspired all her work led her to move from her starting point of health rescue from the damaging effects of slum homes to her ultimate aim of helping all children to develop their potential. She interpreted this largely in terms of creative imagination 'dependent upon sensory and emotional experience and satisfaction of 'the higher hungers' for aesthetic sensitivity' (Whitbread 1975: 62)

Susan Isaacs brought a scientific study of the psychology of young children to her vision of early childhood education. The establishment of the Malting House School in 1924 was well ahead of its time in highlighting the importance of close and systematic observation of children. The significance of individual differences in development, that her observational method revealed, led to an appreciation of the value of individual records in nursery and infant schools.

Her rejection of the then fashionable narrow behaviourist psychology, and her emphasis on language and reasoning were of fundamental importance for the evolution of a sound pedagogical approach to nursery education. In re-establishing the function of the nursery school in promoting intellectual growth she had been influenced by Montessori, whose teaching materials were used at the Malting House.

In reviewing 'adventures in education' Van der Eyken & Turner (1969 :39) draw on Isaacs' own description of the nursery school, in which

> "The children are free to explore and experiment with the physical world, the way things are made, the fashion in which they break and burn, the properties of water and gas, and electric light, the rain and sunshine, the mud and frost. They are free to create either by fantasy in imaginative play or by real handling of clay and wood and bricks. The teacher is there to meet this free inquiry and activity by his skill in bringing together the material and the situations which may give children the means of answering their questions about the world."

Seventy years on Hilary Renowden writes of her nursery as a place in which

> "the emphasis is on the creation of a non-institutionalised, child-centred environment, with a strong underlying structure. Importance is placed equally on the outdoor and indoor environment and resources such as natural materials used wherever possible. Indoors full sized tables, real painting, wallpaper and curtains all help to create a warm and welcoming environment. All materials are stored on open shelves and are accessible to children throughout the day. This accessibility from an early age encourages choice, respect and self discipline as well as nurturing independence and creative expression. Outside there is sand and water, a mud pie area, all manner of dens, a large tarmac yard, a children's raised flower and vegetable garden, a large field with a special conservation area designed by the older children and much loved by the youngest 'crawlies' who will crawl the width of the field to get to it!
>
> We also have chickens, rabbits, guinea pigs, ducks and two nursery cats. There a taps and sinks (at the children's height) outside and all manner of wooden equipment which lends itself to fantasy and imaginative role play." Renowden (1997 : 106)

In a video sequence children bring food they have prepared themselves to a guinea pig. (Hilary's Nursery)

Like Susan Isaacs and the pioneers of early childhood education before her, Renowden believes strongly in the importance of the environment and the sensitive involvement of adults in young children's learning.

The video sequences filmed at her nursery and the interviews recorded for the Shaping the Future materials are testimony to her beliefs and to the theories and principles on which her practice is founded.

> "Children respond to an environment containing beautiful, interesting and curious things. It is our responsibility to ensure that they have the richest possible environment in terms of materials, equipment, appreciation, understanding and time in which to observe, record and express their feelings and responses." (Renowden speaking on audiotape in Abbott et al., 2000)

To return to where we begun: Ted Wragg urging us to "put the baby genius kits in the bin" and our proposed link to Einstein. It is fascinating to us in reading about Einstein's life, including his own writings about it, that it seems likely he would concur with Ted Wragg's sentiments. His appreciation for the values of a holistic education, geared towards the whole child/person, applied to a relatively late period in his childhood and adolescence, but we feel, in the spirit of making links between the very young child and the whole growth of the individual, that what Einstein says is of relevance to the whole child.

Firstly we need to give some biographical background (from the work of Folsing, 1997). Einstein first left school, abruptly, aged 15. At that time he ran away from the boarding school in Munich where he had grown up and simply got on the train and joined his parents who had moved to Milan. They had been forced to relocate owing to the loss of contracts for the family business in Munich - according to Einstein's biographer a result of growing anti-semitism in a period of rising German nationalism.

Einstein's intelligence and talents had already been recognised. It is very interesting to learn how his society coped with this very unusual child at this time. His application to enter a university in Switzerland two years early at 16 was rejected despite the obvious and acknowledged nature of the child prodigy. The university found that his brilliance was uneven and recommended that even though he was capable of participating in second year physics courses immediately that it would be better for him to spend a year in a progressive district school that would further his broad education.

Looking back much later, Einstein credited that school with furthering his creativity and independence of thought.

> "By its liberal spirit and by the simple seriousness of its teachers, unsupported as they were by any outward authority, this school has left unforgettable impressions on me. Comparison with six years' schooling at a German authoritarian *Gymnasium*, made me clearly recognise how much superior an education towards free action and personal responsibility is to one relying on outward authority and ambition. True democracy is no empty illusion." (Einstein 1956/86)

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